

**T**Personal  
Thermocycler  
**Instruction Manual**  
Ver. 09/10



Model	Order No.
TPersonal 20	050-550
TPersonal 48	050-551
TPersonal Combi	050-552



**Please read these instructions carefully before using this apparatus!**



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Subject to change!

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# **1 Introduction**

## **1.1 Field of Applications**

Today thermocycling is a standard technique in all molecular biology labs. The new Biometra TPersonal Thermocycler is licensed for PCR applications (research use only) and intended to be used for performing polymerase chain reactions. The instrument accounts for the increased demand for flexibility and prevents bottlenecks whenever a limited number of samples have to be amplified with different protocols. Due to a new memory structure the programming of the TPersonal Thermocycler is now even easier and delivers highest ease of use to the customer.

## **1.2 Special features**

### **1.2.1 TPersonal block modules**

The TPersonal Thermocycler is available with three different block formats. For standard applications a 48 well block for 0.2 ml single tubes, strips of 8 tubes or 48 well microplates is offered. For large volumes a 20 well block for 0.5 ml tubes is available. The combi block offers maximal flexibility for the use of different sized tubes. The combi block has a capacity for up to 48 x 0.2 ml tubes, strips or plates or 18 x 0.5 ml tubes. When using "small cap tubes" the capacity increases to 35 x 0.5 ml tubes for the combi block.

### **1.2.2 TPersonal heating and cooling rates**

The TPersonal was developed to meet highest demands. The result is a thermal cyclers that reaches the highest heating and cooling rates in the class of personal thermal cyclers and excellent temperature uniformity. The high heating and cooling rates ensure specific reaction conditions and the superior temperature uniformity guarantees that the reaction conditions are identical in every position of the block.

### **1.2.3 TPersonal operating software**

The TPersonal operating software has been redesigned to ensure easy user management and clear menu guidance. At the same time the instrument was equipped with a new front panel for faster navigation through the user menu. The clear user interface in conjunction with the large screen makes TPersonal Thermocycler an intuitive to operate system.

## 1.3 Technical specifications TPersonal Thermocycler

Order number	050-550	050-551	050-552
Model	TPersonal 20	TPersonal 48	TPersonal combi
Block capacity	20 x 0,5 ml-tubes	48 x 0,2 ml-tubes, stripes, 48 well-microplates	18 x 0,5 ml-tubes,** 48 x 0,2 ml-tubes, stripes, 48 well-microplates
Max. heating rate*	3°C/sec.		
Max. cooling rate*	3°C/sec.		
Block material	Aluminium		
Temperature range	3°C – 99°C		
Lid temperature range	30°C – 99°C		
Control accuracy	± 0,1°C		
Temperature uniformity	± 0,5°C after 15 sec.		
Display	High brightness CFL backlight graphical LC Display, viewing area 124 mm x 34 mm, resolution 256 x 64 dots		
Heated lid	High Precision Smart Lid for optimum lid pressure and excellent temperature uniformity, temperature range 30.0 - 99.0 °C		
Noise emission	very low		
Ports	serial: RS232 (bi-directional data transfer), port for in tube-sensor		
Memory	Total capacity: 1500 steps in 10 directories with maximum 100 programs each, max. 99 steps/program, max. 99 cycles		
Software	Program steps are easily entered in a spread sheet Options: time increment, temperature increment, set ramping rate		
Autorestart function	yes		
Cool samples at 4°C	yes		
Line voltage	100 Volt, 115 Volt or 230 Volt		
Frequency	50-60 Hz		
Power consumption	max. 260 Watt		
Fuses	see label on the back of the instrument		
Dimensions (WxDxH)	21,7 x 30,7 x 14,9 cm		
Storage conditions	5°C – 35°C		
Operating conditions	5°C – 35°C, max. 70% humidity, max. 2000 m NN		
Weight	6,7 kg		

\* measured inside the block

\*\* Capacity increases to 35 x 0.5 ml tubes by use of small cap tubes

## **1.4 Legal Notes**

### **1.4.1 PCR License – Legal Disclaimer**

Purchase of a Biometra Thermocycler conveys a limited non-transferable immunity from suit for the purchaser's own internal research and development and applied fields other than human in vitro diagnostics under one or more of US Patents Nos. 5,038,852, 5,656,493, 5,333,675, 5,475,610, and 6,703,236, or corresponding claims in their non-US counterparts, owned by Applied Biosystems Corporation.

No right is conveyed expressly, by implication or by estoppel under any patent claim, reagents, kits, or methods such as 5' nuclease methods, or under any other apparatus or system claim, including but not limited to US Patent No. 6,814,934 and its non-US counterparts, which describe and claim thermal cyclers capable of real-time detection.

Further information on purchasing licenses may be obtained by contacting the Director of Licensing, Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404, USA.

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### **1.4.2 Copyright**

All rights reserved. It is not allowed to copy and publish the manual or parts of it in any form as copies, micro film or other methods without a written authorisation from Biometra. Biometra is pointing out that applied company and brand names are usually protected trade marks.

### **1.4.3 Liability**





Biometra is not liable for damages and injuries caused by use not considering these operating instructions in parts or completely.

### **1.4.4 Meaning of the Instructions**

Biometra recommends that you first read these instructions carefully. This operation instruction is part of the product and should be kept over the full life-time of the instrument. It should also be forwarded to subsequent owners and users. Make sure that additions and updates are inserted into the operation instructions.

## 2 Safety and Warning Notices



### 2.1 Definition of Symbols



<u>Symbol</u>	<u>Definition</u>
	Caution! Refer to instruction manual!
	Danger! High voltage!
	Fragile!
	Danger! Hot surface!



### 2.2 General Safety Instructions



Please read this manual carefully before starting operation of the TPersonal Thermocycler. The TPersonal Thermocycler is intended for sample incubation at varying temperatures.



- General safety precautions for laboratory work must be observed when working with the TPersonal Thermocycler.
- The TPersonal does not produce a sound power level that could be hazardous for the user.



  The thermoblock and the heated lid will reach high temperatures during operation. Both thermoblock and heated lid can burn you.

  Rapid heating of the thermoblock can cause liquids to boil explosively. Always wear safety goggles during operation. Close the lid before starting a program.

  Do not heat samples without having the lid locked securely.

  Be aware that samples are reaching high temperatures. Do not touch or open hot tubes or microplates, because hot liquid may quickly spill out.

  Do not touch the heated lid.

  Use only suited plastic ware in the TPersonal thermocycler. Tubes and plates must show good fit when placed in the thermoblock. Only use tubes that are suited for high temperatures (tight lids).



The TPersonal Thermocycler contains no user serviceable parts. Do not open the housing instrument. Service and repair may only be carried out by the Biometra Service department or otherwise qualified technical personal.



Do not use the instrument when damages of the housing, block, cable or other parts are visible.



Prior to connecting the unit to the power source please ensure that the voltage selector at the bottom of the instrument is set to the required voltage.



Make sure that the main supply voltage is in accordance with the label above the power connection (see section 4.2)



Unplug the power cable before you open the TPersonal Thermocycler. Danger of electric shock!



Make sure that the appliance connector and the plug of the supply cord are accessible, so you can separate the instrument from the mains.



Connect the TPersonal Thermocycler to a grounded socket.



When only few samples are put in the block place additional tubes in the four corner positions. This is to evenly distribute the lid pressure and prevents single tubes from excessive pressure. Use of few tubes may result in damage of the tubes by excessive pressure.



Appropriate safety regulations must be observed when working with infectious, pathogenic or radioactive material. Ask the responsible local safety inspector for details.



The TPersonal Thermocycler must not be used with explosive, flammable or volatile liquids.



Do not place fingers between lid and housing when opening or closing the lid.



Before opening of the lid, release lid pressure



It is not necessary to apply oil into the opening of the block in order to improve the heat transfer between the block and the sample tubes.

If you still decide to use oil, **do not** use silicon oil. Mineral oil may be used.



Ensure that both the rear and bottom ventilation slits not clogged by dust or other material. Danger of overheating!



Let equilibrate the TPersonal Thermocycler to room temperature before starting operation.



There must be sufficient distance between the ventilation slots on the rear side of the Thermocycler and a wall or another instrument (min 10 cm). Danger of overheating!



This instrument is designed and certified to meet EN 61010-1 safety standards. It should not be modified or altered in any way. Alteration of this instrument will void the warranty, void the EN61010-1 certification, and create a potential safety hazard.

Place the TPersonal Thermocycler on a stable, non flammable surface in a dry, safe environment. For details see working conditions in table "Technical specifications" (see chapter 1.3).

Do not use alcohol (e.g. methanol, ethanol), organic solvents or abrasives to clean the instrument.

For transports always use the original Biometra box.

## 3 Installation

### 3.1 Content of delivery

- 1) Thermocycler
- 2) Mains connector
- 3) Manual
- 4) Short Manual

Please keep the original packaging material for return shipment in case of servicing. The TPersonal shipping box provides a specially developed system for contact-free transport of this electronic device.

### 3.2 Unpack and Check

Unpack and carefully examine the instrument. Report any damage to Biometra. Do not attempt to operate this device if physical damage is present.

Please keep the original packing material for return shipment in case of service issues



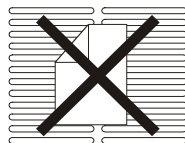
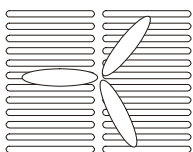
**!! Attention !!**



**Please fill out and send back the warranty registration card. This is important for you to claim full warranty.**

### 3.3 Installation Conditions

- Place the TPersonal Thermocycler on a stable surface in a dry, safe environment. For details see working conditions in table “Technical specifications” (see chapter 1.3).
- Let equilibrate the TPersonal Thermocycler to room temperature before starting operation (1 to 6h).
- Make sure that the appliance connector and the plug of the supply cord are accessible, so you can separate the instrument from the mains.
- Make sure that the ventilation slots on the bottom and the rear are not obstructed. Make sure that there is no object underneath the thermocycler that may block the ventilation slots at the bottom (e.g. a piece of paper etc.)
- There must be sufficient distance between the ventilation slots on the rear side of the Thermocycler and a wall or another instrument (min 10 cm).



Ensure that both the rear and bottom ventilation slits of the rear and bottom of the instrument are unobstructed.

Insufficient ventilation can cause overheating of the instrument.

- Make sure that the main supply voltage is in accordance with the label above the power connection (see section 3.4)
- Connect the TPersonal Thermocycler to a grounded socket.

Prior to connecting the unit to the power source please ensure that the voltage selector at the back side of the instrument is set to the required voltage.



Danger of electric shock! Unplug the power cable before you open the TPersonal Thermocycler.

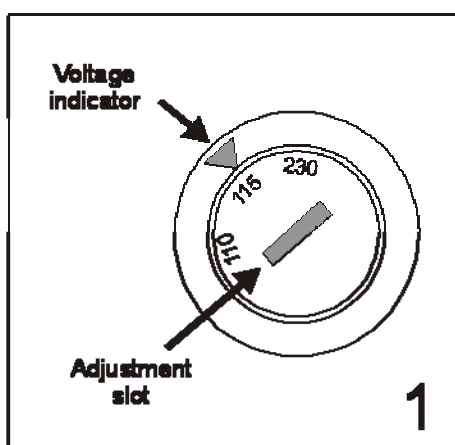
- The display contrast can be adjusted to local light conditions (5.7.4)

## 3.4 Operation Voltage

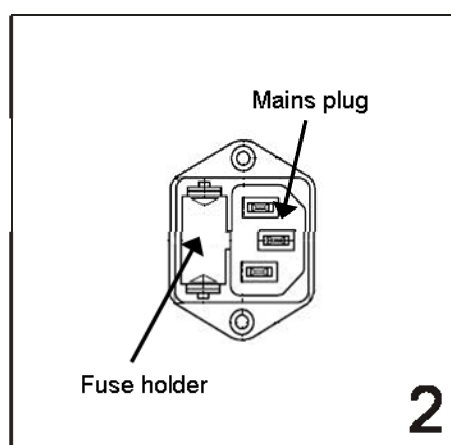
The TPersonal Thermocycler can operate at 100, 115 or 230 Volt.

**Important:** Prior to connecting the TPersonal to the mains, make sure that the setting of the Voltage selector at the bottom of the instrument is in accordance with your mains Voltage and that it is equipped with the correct fuses.

Instrument bottom



Instrument backside



1. To change the operation Voltage settings switch off the instrument and disconnect the mains plug.
2. Use a coin or another round shape item to turn the adjustment slot of the Voltage selector at the bottom side of the instrument (see picture 1) to the new Voltage setting.
3. Pull out the fuse holder at the backside of the TPersonal (see picture 2). Load the fuse holder with two fuses corresponding to the designated operation Voltage. At an operation Voltage of 230V use two slow-blow fuses of 2 Ampere (2x 2ATT), at an operation Voltage of 100 or 115 Volt use two slow-blow fuses of 4 Ampere (2x 4ATT).
4. Reinsert the fuse holder.
5. Switch on the instrument.

### 3.5 Initial self test

After switching on the TPersonal the serial number of the instrument and the software version is displayed.

```
T Personal

Serial number
Block type
Vers.                               (c) biometra 2008
```

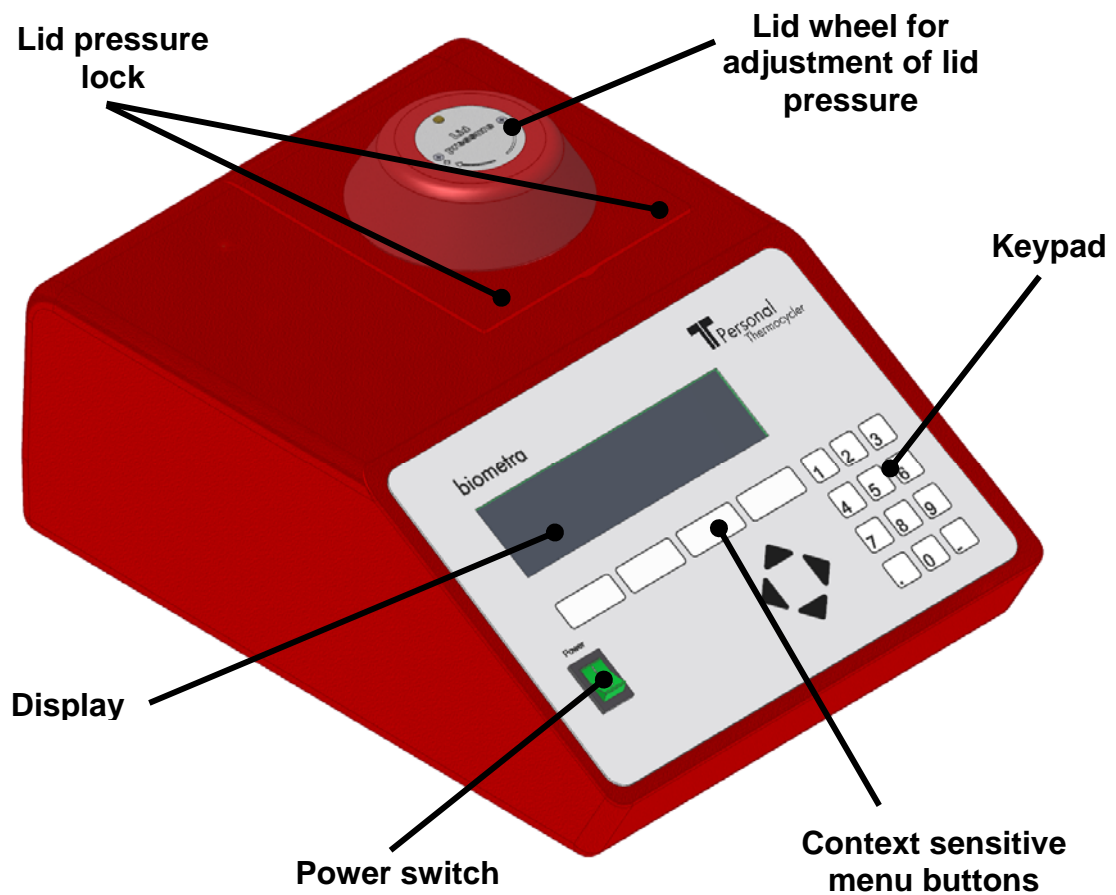
The TPersonal then checks all programs in all subdirectories (so called RAM check).

```
T Personal

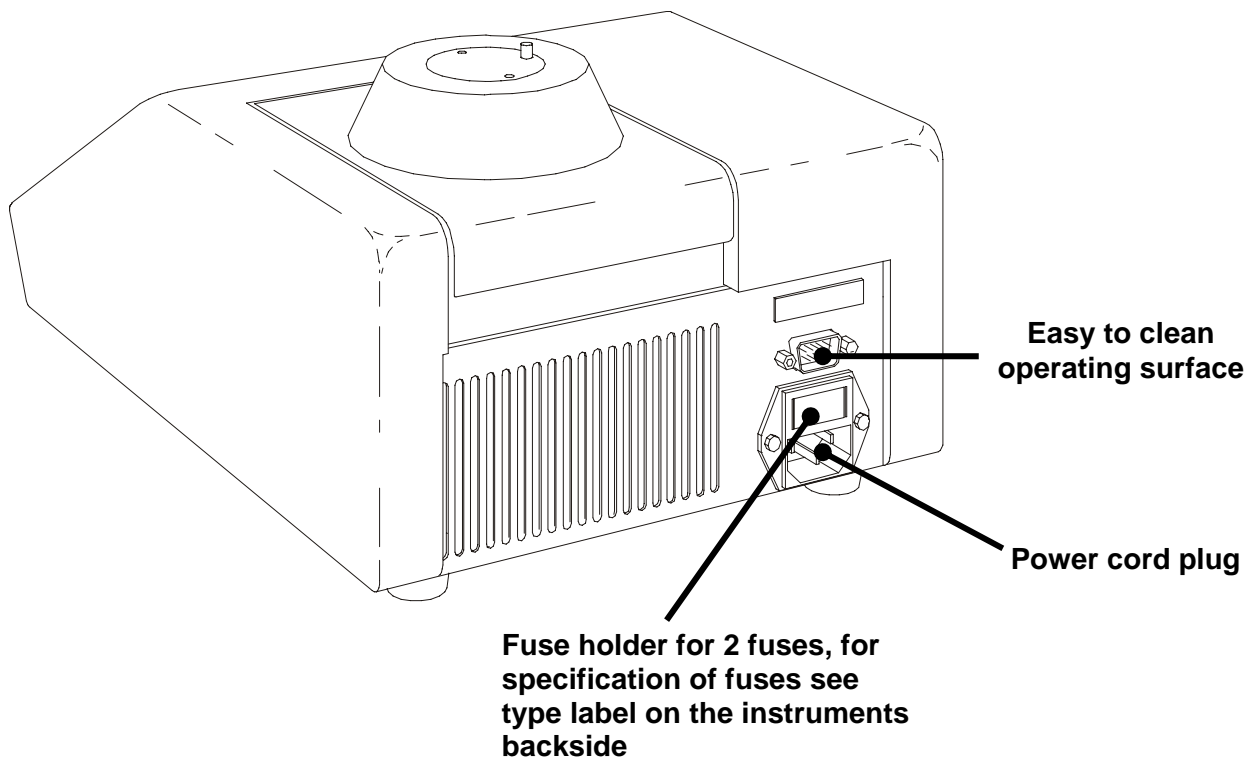
Serial number
Block type
Checking directory 7 program 4
```

## 4 Operating elements

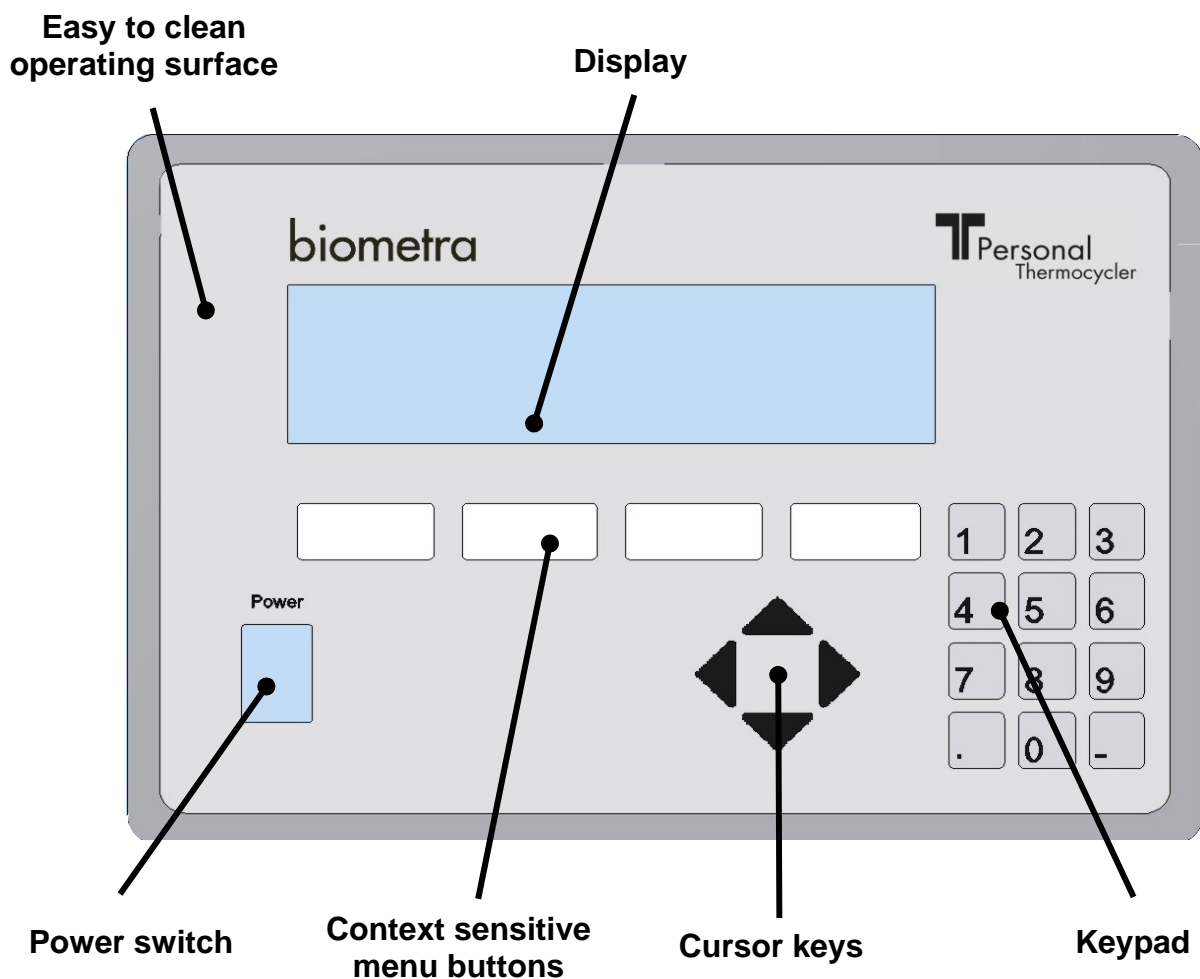
### 4.1 The TPersonal front view



## 4.2 The TPersonal rear view



## 4.3 The TPersonal control panel



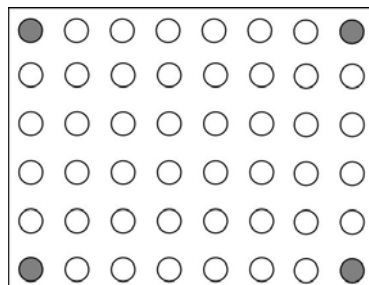
## 4.4 High Performance Smart Lid (HPSL)

To achieve optimum pressure on the tubes the TPersonal is equipped with a height adjustable heated lid.

### Close the lid:

After the samples have been placed in the block close the lid. Turn the wheel clockwise until you hear a clicking noise. In this mode the pressure will not increase further, even when you keep on turning the wheel.

**Note:** The pressure of the lid has been optimized for a fully loaded block. If only very few tubes are loaded to the block you should place dummy tubes in the four corner positions to avoid damage of tubes by excessive pressure.



### Open the lid:

**First:** Release pressure by turning the wheel counter clockwise. As soon as there is no more resistance the pressure has been released.

**Then:** Open the lid.

**Important:** The lid should not be opened under pressure because this leads to damage of the locking mechanism.

## 5 Operating

### 5.1 The TPersonal display

The TPersonal display provides information about the instrument and about the status of the active program.

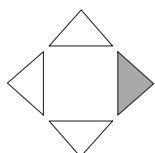
Prog	
Temp	23.9°C
Deckel	24.0°C
Info	System
Start/Stop	Edit

The function of the four soft keys beneath the display is context sensitive. The respective function is shown in the display (see also chapter 4.3). The function of each key can differ from screen to screen.

### 5.2 Navigation within the TPersonal software

The TPersonal provides spread sheet programming. This means that all program parameters are entered into a simple central spreadsheet.

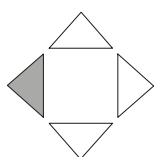
Four navigation keys provide easy navigation within the software. The back and the forward key have additional functions as described below:



The right cursor key moves the cursor to the next field.

This cursor can also be used to complete data entry. By pressing the right cursor settings will be saved and the cursor moves to the next field.

In the file directory, this key moves the cursor forward to the next (lower) level.



The left cursor key moves the cursor back to the previous field.

In most screens this cursor is equivalent to the "**back**" softkey.

In the file directory, this key moves the cursor back to the higher level.

### 5.3 Create program

Prior to writing a new program, a program store has to be chosen. The TPersonal provides 10 directories of which each can store up to 99 different programs. For easy identification of the selected storage place, the directories can be named (see section 5.3.3). The total memory capacity is 1.500 program steps.

#### 5.3.1 Select directory

Start with the main screen.

Prog	
Temp	23.9°C
Lid	24.0°C
Info	System Start/Stop Edit

Press [Edit] to enter the edit mode.

-	0:	Edit program
-	1:	
-	2:	
-	3:	
-	4:	
Page	↑↓	Name Back Enter

You are now in the directory structure of the edit mode.

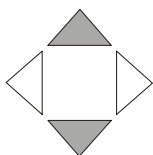
Use cursor keys to select a subdirectory.

-	0:	Edit program
-	1:	
-	2:	
-	3:	
-	4:	
Page	↑↓	Name Back Enter

Press [Enter] to enter highlighted subdirectory. The program storages are displayed.

-	3: -----	0: empty
		1: empty
Edit program		2: empty
		3: empty
		4: empty
Page	↑	Page ↓ Copy/Del. Edit

### 5.3.2 Select program store

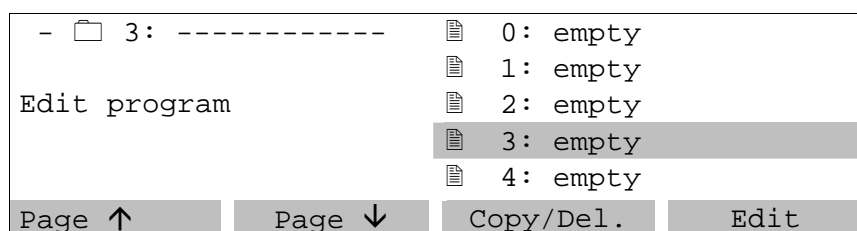


Use cursor keys to select a program store.

1	2	3
4	5	6
7	8	9
.	0	-

Tip: Use numeric keypad to directly enter program number.

For numbers smaller than 10 enter "0" plus number.

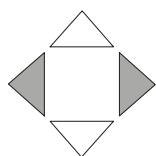
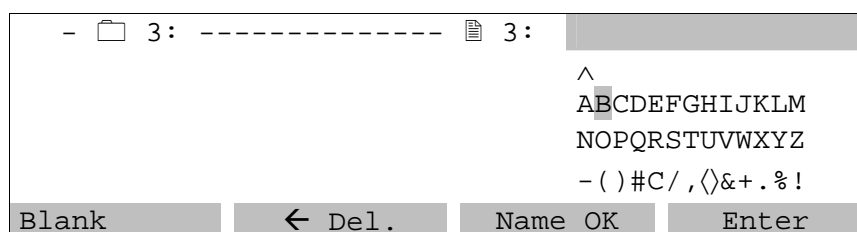


Using the softkeys [Page ↑] and [Page ↓] you can scroll through the list in 5 program steps.

Press [Edit] or → to write new program in Program store 03.

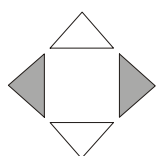
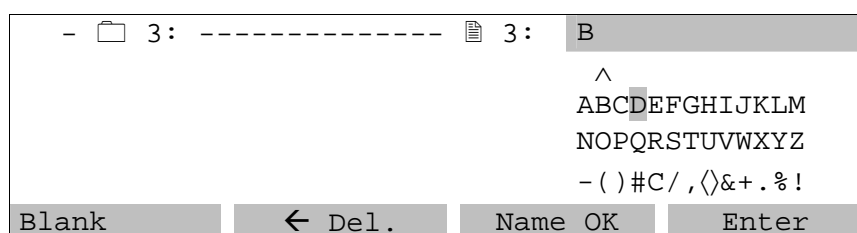
### 5.3.3 Enter program name

Each program is specified by a program number and a subdirectory number. To make retrieval of a program easier, you can enter a name for each program existing of letters, numbers and symbols.



Use cursor keys to select a letter.

Accept letter with [Enter].



Use cursor keys to select next letter.

Accept letter with [Enter]. Repeat until name is completed.

**Note:** Press [← Del.] to delete a false letter. You may also use certain special characters to name the folder. To enter a blank press the [Blank] button.

**Note:** Do not use special characters if you would like to control the TPersonal Thermocycler by the Thermocycler Manager Software.

-	3: -----	3: BIOMETRA
^		
ABCDEFGHIJKLM		
NOPQRSTUVWXYZ		
- ( ) # C / , < > & + . % !		
Blank	← Del.	Name OK Enter

Once the name is completed, confirm name with [name OK].

-	3: -----	3: BIOMETRA
Lid temp ----C		
Preheating On		
Info	Page ↓	Save Pgm Enter

## 5.3.4 Enter lid temperature

You can enter a temperature for the heated lid in a range of 30 °C to 99 °C.

**Note:** Thanks to a new lid design, significantly lower lid temperatures than in the past can be used for thermocycling. The lower lid temperature leads to a higher temperature uniformity within the lid and thus to a more even temperature distribution in the tubes. For instruments featuring the new lid design, a maximum temperature of 99.0°C should can used.

-	3: -----	3: BIOMETRA
Lid temp 99.0C		
Preheating On		
Info	Page ↓	Save Pgm Enter

## 5.3.5 Select / deselect lid pre-heating

You can choose whether the lid is pre-heated before the program starts. This is to avoid evaporation during the initial heating phase.

**Note:** During the preheating of the lid, the block is held constant at 25°C.

-	3: -----	3: BIOMETRA
Lid temp 99.0C		
Preheating On		
Info	Page ↓	Save Pgm 1. Enter

**Note:** The default setting, which is recommended for most applications, is preheating: On.

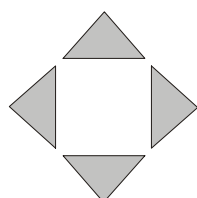
After all pre-settings have been made, press [Enter] to open the programming spreadsheet.

## 5.3.6 Enter temperature and time settings

The programming spreadsheet:

Temp [C]	Time	←	#	Options -->
1: <input type="text"/>				
2: <input type="text"/>				
3: <input type="text"/>				
4: <input type="text"/>				
Info	Insert/Del	Save Pgm	Enter	

**Note:** In this spreadsheet you can enter all parameters for your cycling protocol. In addition, you can set special parameters like touch down, ramping rates or time increments. For details on these special parameters, see section 5.4.1.



You can navigate in the spreadsheet without limitations with the four cursor keys

**Note:** Each setting is confirmed with [Enter]. The cursor moves automatically to the next field. Alternatively, you can confirm a value by moving forward with the cursor keys.

**Note:** At any time you can activate the help function with [Info]

**Note:** In an existing protocol program steps can be deleted and inserted. For further information on deleting and inserting program steps (see sections 5.4.1 and 5.4.2).

Now enter temperature for the first step and press [Enter]. In the next row you can enter the time for this temperature:

Temp [C]	Time	←	#	Options -->
1: 95.0	<input type="text"/>			
2: <input type="text"/>				
3: <input type="text"/>				
4: <input type="text"/>				
Info	Insert/Del	Save Pgm	Enter	

**Note:** There is a convention on how time settings are entered in all BIOMETRA cyclers:  
hours ● minutes ● seconds

If you enter a number without “dot” this value will be interpreted as seconds (“300” => 5 minutes). To program minutes enter a “●” after the number of minutes. To enter hours enter ● after the number. You can also enter any combination of hours, minutes and seconds. Example: for 1 hour, 30 minutes, 20 seconds enter 1 ● ● 30 ● 20.

The time values will be displayed in the following format: 0h 00 m 00s

**Note:** To program a pause press “0” and [Enter]. For the corresponding step “Pause” will be displayed. To manually pause a program see section 5.3.8.

Enter "5" "dot" for 5 minutes initial denaturation. Press [Enter].

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2:				
3:				
4:				
Info	Insert/Del	Save Pgm	Enter	

Repeat for all temperature steps in the program.

### 5.3.7 Set loop

In general, loops are defined by two parameters:

- 1) The target for the back loop (row „←“)
- 2) The number of back loops (row „#“).

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s			
Info	Insert/Del	Save Pgm	Enter	

In the row labelled with ← enter the target step for a back loop and press [Enter].

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2		
Info	Insert/Del	Save Pgm	Enter	

In the row labelled with # you can enter the number of back loops.

**Note:** total cyclers number = (n back loops) + 1, e.g. enter 29 for a total number of 30 cycles.

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
Info	Insert/Del	Save Pgm	Enter	

This protocol now contains 25 cycles between step 2 (95.0°C for 1 minute) and step 3 (55.0 °C for 1 minute).

## 5.3.8 Cool below ambient temperature

Temp[C]	Time	←	#	Options -->
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
5: 72.0	0h 5m 0s			
6: 16.0	Pause			
Info	Insert/Del	Save Pgm	Enter	

To hold the temperature for an indefinite time enter "0". After pressing [Enter] "pause" is displayed.

**Note:** If a program ends with a pause it has to be manually stopped by the user (see section 5.6.5).

**Note:** Biometra recommends to cool samples at a temperature of 16°C rather than 4°C. This prolongs the life span of the instrument.

## 5.3.9 Save program

Save program with [Save Pgm]. The program data are written to the permanent memory.

Temp[C]	Time	←	#	Options -->
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
5: 72.0	0h 5m 0s			
6: 16.0	Pause			
Info	Insert/Del	Save Pgm	Enter	

Confirm changes with [Yes]. The run time is calculated.

- 3: ----- 3: BIOMETRA

Save changes?

Cancel
Yes
No

- 3: ----- 3: BIOMETRA

Number of steps: 6  
Run time: 1h13m46  
>>> Saving program.<<<

**Note:** The run time is calculated according to the block type. Please be aware that different block types provide different ramping rates (see section 1.3, Technical specifications)

**Note:** Please note that time increments (see section 5.5.1) and altered heating and cooling rates (see section 5.5.3) have an influence on the overall run time.

Prog			
Temp	23.9°C		
Lid	24.0°C		
Info	System	Start/Stop	Edit

**Note:** To view the remaining runtime during a run press [Info] in the main menu.

## 5.4 Edit programs

Select program as described in section 5.3.1 and section 5.3.2.

**Note:** During operation of the cycler the active program can be viewed but not modified. If you want to change settings of the active program for further experiments you have to save a copy of this program to another memory. For further information about copying programs see section 5.4.3.

### 5.4.1 Delete program steps

Open the programming spreadsheet:

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
Info	Insert/Del	Save Pgm	Enter	

To delete a program step press [Insert/Del]

Insert / Delete step:				
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
← Del.	Cancel	Delete	Insert	

Enter the number of the step that you want to delete and press [Delete].

Example: To delete step 3 enter "3" and press [Delete]

Insert / Delete step: 3				
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
← Del.	Cancel	Delete	Insert	

Insert / Delete step: 3				
1:	95.0	0h 5m 0s		
2:	95.0	0h 1m 0s		
3:	55.0	0h 1m 0s		
4:	72.0	0h 1m 0s	2	24
>>> Deleting step 3... <<<				

The corresponding step is deleted.

Temp[C]	Time	←	#	Options -->
1:	95.0			
2:	95.0			
3:	72.0	2	24	
4:	72.0			
Info Insert/Del Save Pgm Enter				

**Note:** The insertion or deletion of steps may have an influence on loops. If for a deleted step a loop was defined, the loop will be deleted too. Please insure that the modified program will work correctly.

## 5.4.2 Insert program steps

Open the programming spreadsheet:

Temp[C]	Time	←	#	Options -->
1:	95.0			
2:	95.0			
3:	55.0			
4:	72.0	2	24	
Info Insert/Del Save Pgm Enter				

To insert a program step press [Insert/Del]

Insert / Delete step:				
1:	95.0	0h 5m 0s		
2:	95.0	0h 1m 0s		
3:	55.0	0h 1m 0s		
4:	72.0	0h 1m 0s	2	24
← Del. Cancel Delete Insert				

Enter the number of the step that you want to insert / delete.

Example: To insert new step at step 3, enter "3" and press [Insert]

Insert / Delete step: 3				
1:	95.0	0h 5m 0s		
2:	95.0	0h 1m 0s		
3:	55.0	0h 1m 0s		
4:	72.0	0h 1m 0s	2	24
← Del. Cancel Delete Insert				

Press [Insert]

```

Insert / Delete step: 3
1: 95.0      0h 5m 0s
2: 95.0      0h 1m 0s
3: 55.0      0h 1m 0s
4: 72.0      0h 1m 0s  2  24
>>> Inserting new step at step 3... <<<
  
```

A new step is inserted (Temp 10°C, Time 0h 0m 1s).

Enter temperature and time for new step.

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 10.0	0h 0m 1s			
4: 55.0	0h 1m 0s			

Info   Insert/Del   Save Pgm   Enter

Note: Additional steps will be inserted before the selected step. The following steps are shifted by one position. The new step has been entered within an existing loop, this loop now consists of three steps.

**Note:** The insertion and deletion of steps may have an influence on existing loops. Be sure that all settings are updated to maintain a correct cycle.

### 5.4.3 Copy program

Select the program you want to copy as described in section 5.3.1 and section 5.3.2.

-	3: -----	0: TEST1
		1: TEST2
Edit program		2: BIOMET1
		3: BIOMET2
		4: BIOMET3

Page ↑   Page ↓   Copy/Del.   Edit

Press [Copy/Del.]

-	3: -----	3: BIOMET2
---	----------	------------

Copy Pgm   Delete Pgm   Back

To copy this program press [Copy Pgm]

-	0:	Target
-	1:	
-	2:	
-	3:	
-	4:	
Info		Page ↑↓ Back Enter

Select the subdirectory with the cursor keys, or enter number on the keypad:

-	0:	Target
-	1:	
-	2:	
-	3:	
-	4:	
Info		Page ↑↓ Back Enter

Press [Enter]

-	2: -----	0: empty
Target		1: empty
		2: empty
		3: empty
		4: empty
Page ↑		Page ↓ Back Edit

Select program number for the program copy and confirm with [Enter]:

Copy	
-	3: -----
To	
-	2: -----
Back Copy	

Press [Copy]

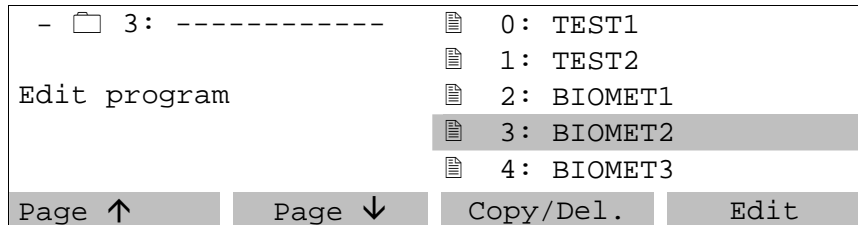
Copy	
-	3: -----
To	
-	2: -----
>>> Copying program... <<<	

-	2: -----	0: empty
Edit program		1: empty
		2: empty
		3: BIOMET2
		4: empty
Page ↑		Page ↓ Copy/Del. Edit

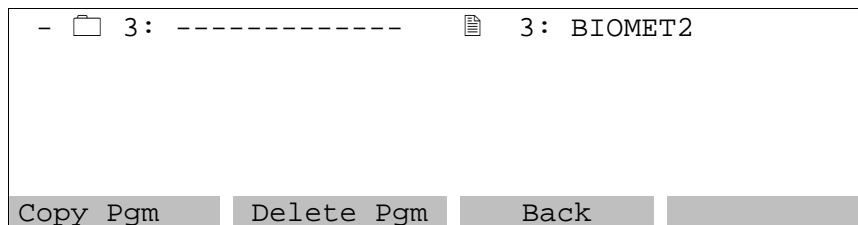
**Note:** If the program is copied to an already used storage space the existing program will be overwritten!

## 5.4.4 Delete program

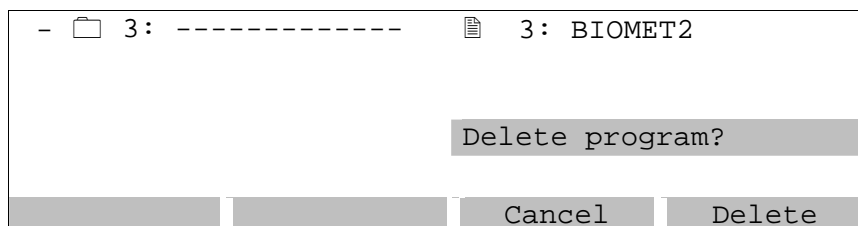
Select the program you want to delete as described in section 5.3.1 and section 5.3.2.



Press [Copy/Del.]

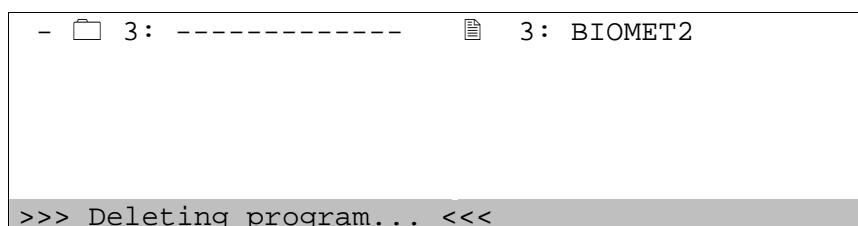


To delete this program press [Delete pgm]

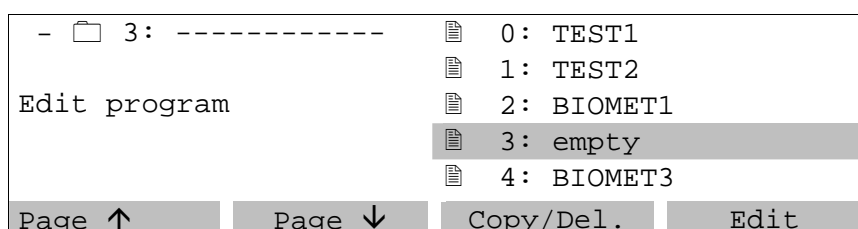


**Note:** Once a program has been deleted, it cannot be restored!

Press [Delete]



In the directory structure the program is displayed as empty.



You can enter a new program.

To get back to the main screen, 2 x press cursor key [←]

## 5.5 Further programming options

Open the programming spreadsheet:

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
Info	Insert/Del	Save Pgm	Enter	

**Note:** To program special parameters you can scroll the display to the right. Move the cursor to the right side row of the display (Options →).

Main funct.	dT[C]	dt[s]	°C/s
1: ←			3.00
2: ←			3.00
3: ←			3.00
4: ←			3.00
Info	Insert/Del	Save Pgm	Enter

**Note:** To go back to programming sheet, move the cursor to the very left side of the display (row "Main funct.").

Alternatively you can move the cursor to the very right.

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			+
4: 72.0	0h 1m 0s	2	24	
Info	Insert/Del	Save Pgm	Enter	

**Note:** In the main screen you will find the information that a special parameter has been modified. This is indicated by a + in the row labelled with opt →.

### 5.5.1 Program time increments

To compensate for loss in enzyme activity each step within a loop can be extended from cycle to cycle. Enter the desired time increment [seconds] in the row labelled with dt[s]. This value will be added to the time value from cycle to cycle.

Main funct.	dT[C]	dt[s]	↗[°/s]
1: ←			3.00
2: ←			3.00

3:	←	10	3.00
4:	←		3.00
<div>Info</div> <div>Insert/Del</div> <div>Save Pgm</div> <div>Enter</div>			

**Note:** A time increment will have an impact on the total runtime depending on the numbers of cycles and the size of the increment. A program with many cycles and large time increments will take a significantly longer time than a standard protocol.

**Note:** A time increment has to be programmed within a loop. Otherwise the entered increment will be without an effect.

## 5.5.2 Program touch down

For some applications it is useful to start with a higher temperature and to decrease this temperature from cycle to cycle. This subsequent lowering of a temperature is called touch down.

To decrease the temperature from cycle to cycle enter a negative temperature increment in the row labelled with dT[s].

Main funct.	dT[C]	dt[s]	↗[°/s]
1:	←		3.00
2:	←		3.00
3:	←	- 0.10	3.00
4:	←		3.00
<div>Info</div> <div>Insert/Del</div> <div>Save Pgm</div> <div>Enter</div>			

**Note:** Be sure that the temperature decrease is set in a step that lies within a loop. Otherwise there will be no iterative temperature decrease.

## 5.5.3 Adjust heating and cooling rates

Since the TPersonal is a fast thermocycler it may be necessary to reduce the heating and cooling rate for some applications. For example this is helpful if protocols from other Thermocyclers shall be used.

The heating or cooling rate respectively can be set in the row labelled with ↗[°/s].

Main funct.	dT[C]	dt[s]	↗[°/s]
1:	←		3.00
2:	←		1.00
3:	←		3.00
4:	←		3.00
<div>Info</div> <div>Insert/Del</div> <div>Save Pgm</div> <div>Enter</div>			

**Note:** The default setting [3.00 °/s] indicates maximum ramping.

## 5.6 Run program

### 5.6.1 Select and start program

Open the main screen:

Prog	
Temp	23.9°C
Lid	24.0°C
Info	System Start/Stop Edit

To run a program press [Start/Stop]

-	0:	Start block
-	1:	
-	2:	
-	3:	
-	4:	
Page	↑↓	Direct Back Enter

Select directory with cursor keys [↑] [↓] or enter directory number and press [Enter].

-	2: -----	0: BIOMET1
Edit program		1: BIOMET1
		2: BIOMET1
		3: BERND2
		4: BIOMET1
Page	↑	Page ↓ View Start

Select program with cursor keys or enter program number.

**Note:** To be sure that the correct program is selected, it can be displayed by pressing [View] (see section 5.6.2).

Press [Start] to run program.

## 5.6.2 View program prior to start

-	2: -----	0: BIOMET1
Edit program		1: BIOMET1
		2: BIOMET1
		3: BERND2
		4: BIOMET1
Page	↑	Page ↓ View Start

To check a program prior to start, it can be displayed by pressing [View]

-	2: -----	3: BERND2
		Lid temp 99.0C
		Preheating Off
	Page ↓	Back Start

Scroll through the program with [Page ↑] and [Page ↓].

Temp[C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
Page ↑↓		Back	Start	

To run program press [Start].

### 5.6.3 Display during operation

During preheating of the lid the following screen is displayed:

Prog	3 Biometra	Dir	2
Step	1	Cycle	1 of 6
Temp	25.0 → 62.0°C		
Time			
Lid	Preheating/55.0°C		
Info	System	Start/Stop	Edit

**Note:** While lid preheating, the block is held constantly at 25.0°C. The program starts as soon as the lid has reached the set temperature. During the preheating phase the display of the lid temperature alternates between the current lid temperature and “preheating”.

### 5.6.4 View remaining run time

Display during operation:

Prog	3 Biometra	Dir	2
Step	1	Cycle	1 of 6
Temp	25.0°C → 62.0°C		
Time	0h4m0s → 0h5m0s		
Lid	99.0°C		
Info	System	Start/Stop	Edit

To view remaining run time press [Info].

Prog	3 Biometra	Dir	2
Additional information about active pgm			
Status:	Step	1	
Time	Cycle	1 of 56	
Remaining time: 43h34m			
		Back	

The current remaining run time is displayed in line 4.

### 5.6.5 Pause / stop program

Display during operation:

Prog	3	Biometra	Dir	2
Step	1		Cycle	1 of 6
Temp		25.0°C	→	62.0°C
Time		0h4m0s	→	0h5m0s
Lid		99.0°C		
Info		System	Start/Stop	Edit

To stop or pause a program press [Start/Stop]

Stop/Pause				
Directory :	2			
Program No :	3	Biometra		
Info	Pause	Back	Stop	

Press [Pause] to pause block

Press [Stop] to stop block

**Note:** The program pauses in the current state. The word “Pause” is displayed and alternates with the elapsed time. You can continue the run with [Start/Stop].

## 5.7 System settings

Open the main screen:

Prog	
Temp	23.9°C
Lid	98.0°C
Info	System
Start/Stop	Edit

To change instrument settings press [System]

1	System-Info
2	Signal
3	Language/Sprache
4	Display contrast
5	Diagnostics
Page	↑↓
Back	Enter

Scroll though the list with the cursor keys [↑] [↓]. Enter selected function with [Enter].

### 5.7.1 System info

Select System info, Press [Enter]

TPersonal			
Serial No 123456			
Blocktype			
Vers.		© Biometra 2008	
		Back	

This page shows the serial number of the instrument and software version.

## 5.7.2 Switch beep on/off

There is an option for an audible signal whenever a program enters a pause and when the program is finished. If this option is active, the beep can be switched off by pressing any key of the keyboard.

Select signal, press [Enter]

With signal?	Yes		
	NO		
Info		Cancel	Enter

## 5.7.3 Select language

The display of the TPersonal can be switched from English to German.

Select Language/Sprache, Press [Enter]

Language/Sprache:	German/Deutsch		
	English/Englisch		
Info		Cancel	Enter

To confirm your selection press [Enter]

## 5.7.4 Display contrast

The display contrast can be set in 4 levels to achieve optimum visibility under individual light conditions.

Select display contrast, press [Enter]

Contrast (0-4 or arrows):		2	
Info		Cancel	Enter

User cursor keys to in/decrease contrast value or directly enter setting.

The default setting is "2" which meets average conditions.

### 5.7.5 Diagnostics

The diagnostic screen contains internal information used by the Biometra service department for servicing.

## 6 Short manual

### Safety warnings



Do not open the instrument unless you are authorised to do so. Check the label at the backside if the instrument has correct voltage configuration (100V, 115 V or 230 V).



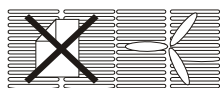
The thermoblock and the heated lid will reach high temperatures during operation. Both thermoblock and heated lid can burn you.



Rapid heating of the thermoblock can cause liquids to boil explosively. Always wear safety goggles during operation. Close the lid before starting a program.

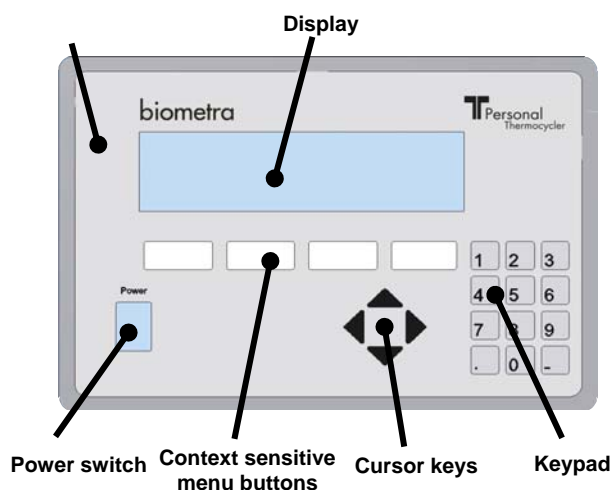


It is not necessary to apply oil into the opening of the block in order to improve the heat transfer between the block and the sample tubes. If you still decide to use oil, do not use silicon oil. Mineral oil may be used.



Ensure that both the rear and bottom ventilation slits at the rear and bottom of the instrument are unobstructed. Insufficient ventilation can cause overheating of the instrument. **Tip:** At regularly intervals clean the bottom's ventilation slits from dust to ensure maximum venting capability.

### The TPersonal control panel



### TPersonal main screen

Prog			
Temp	23.9°C		
Lid	24.0°C		
Info	System	Start/Stop	Edit
Softkey 1	Softkey 2	Softkey 3	Softkey 4

- The function of the four soft keys beneath the display is context sensitive. The respective function is shown in the display. The function of each key can differ from screen to screen.

### Create, modify and save programs

- Press [Edit] to enter the edit mode.
- Select a user directory with the cursor keys  $\uparrow \downarrow$ . → Press [Enter]
- Select a program with cursor keys or by number. → Press [Edit]

## Enter program name

-	3: -----	3:
		^
		ABCDEFGHIJKLMNOPQRSTUVWXYZ
		NOPQRSTUVWXYZ
		-( )#C/,<>&+.%!
Blank	← Del.	Name OK Enter

- ➡ Select letter with cursor keys and accept with [Enter]
- ➡ Accept name with [Name OK]

## Enter lid temperature

-	3: -----	3: BIOMETRA
		Lid temp 99.0C
		Preheating On
Info	Page ↓	Save Pgm Enter

- ➡ Set lid temperature for the Biometra High Performance Lid a few degrees higher than the highest block temperature programmed. For most applications like PCR, a lid temperature of 99.0°C is recommended. Confirm with [Enter].
- ➡ Accept preheating mode "on" → block starts after the lid has reached the programmed temperature.  
Note: Prior to block start, there is a 40 sec temperature equilibration
- ➡ Press [Enter]

## The programming spreadsheet

Temp [C]	Time	←	#	Options -->
1: 95.0	0h 5m 0s			
2: 95.0	0h 1m 0s			
3: 55.0	0h 1m 0s			+
4: 72.0	0h 1m 0s	2	24	
Info	Insert/Del	Save Pgm	Enter	

- ➡ Use cursor keys ⬅➡⬆⬆ to navigate in the spreadsheet. Press repeatedly cursor key ➡ to open a spreadsheet extension for programming time and temperature increments.
- ➡ Enter temperature and time for each step and confirm with [Enter].  
Hours, minutes and seconds are separated by dot (•). To enter for example 1 minute 30 seconds type "1" • "30". To enter 1 hour type "1" followed by two ••.
- ➡ Set loop: Enter the target step for a back loop in column "←". The number of back loops (total cycle number -1) is entered in column "#". Confirm with [Enter].
- ➡ To program a pause enter zero. "Pause" will be displayed after moving forward to the next step:

Temp [C]	Time	←	#	Options -->
3: 55.0	0h 1m 0s			
4: 72.0	0h 1m 0s	2	24	
5: 72.0	0h 5m 0s			
6: 16.0	Pause			
Info	Insert/Del	Save Pgm	Enter	

- ➡ To enter temperature or time increments or to alter the ramp rate open spreadsheet extension (press repeatedly ➡):

Main funct.	dT[C]	dt[s]	$\uparrow$ [°/s]
1: ←			3.00
2: ←			3.00
3: ←	- 0.10	10	1.00
4: ←			3.00
Info	Insert/Del	Save Pgm	Enter

- To set a temperature or time increment enter the increment value in columns "dT[C]" (temperature) or "dt[s]" (time). Values have to be entered with a minus sign if temperature or time shall be reduced step by step. Confirm with [Enter].  
**Note:** Temperature or time increments have to be set within a loop otherwise they will be without effect.
- To alter the ramp rate enter new ramping temperature in column  $\uparrow$ [°/s].
- Save program with [Save Pgm].

## Start program

- Press [Start/Stop] the main screen
- Select directory and program with cursor keys or enter program number.
- Optional: To control program prior to start press [View] and use [Page  $\downarrow$   $\uparrow$ ] or the cursor keys  $\uparrow$  and  $\downarrow$  to navigate blockwise or stepwise within the spreadsheet.
- Start selected program with [Start].  
**Note:** After the High Performance Lid has reached the programmed temperature, there is a 40 second equilibration phase before the program starts (preheating mode "on").

## Display during operation

Prog	3 Biometra	Dir	2
Step	1	Cycle	1 of 6
Temp	25.0 → 62.0°C		
Time			
Lid	Preheating/55.0°C		
Info	System	Start/Stop	Edit

**Note:** When the preheating function is activated, the block is held constantly at 25.0°C when the block is heated up. During the preheating phase the display of the lid temperature alternates between the current lid temperature and "preheating".

- Press [Info] for remaining run time. Press [Exit] to leave the info screen.
- To stop/pause active program press [Start/Stop]

Stop/Pause			
Directory :	2		
Program No :	3 Biometra		
Info	Pause	Back	Stop

- Press [Pause] to pause block
- Press [Stop] to stop block.  
**Note:** The program pauses in the current state. The word "Pause" is displayed and alternates with the elapsed time. You can continue the run with [Start/Stop].

## System settings

- Press [System] in the TPersonal main screen.

1	System-Info
2	Signal
3	Language/Sprache
4	Display contrast
5	Diagnostics
Page ↑↓	
Back	
Enter	

➡ Select topic by using [**Page** ↓↑] or the cursor keys ↑ and ↓ and press [**Enter**].

1. System-Info: Shows information on the serial number of the instrument and the software version.
2. Signal: Switch beep on/off
3. Language/Sprache: The display of the TPersonal can be switched from English to German.
4. Display contrast: Adapt contrast to the local light conditions

Diagnostics: The diagnostic screen contains internal information used by the Biometra service department for servicing.

## 7 Trouble shooting

### 7.1 Slow heating and cooling

The TPersonal is equipped with a strong ventilator for the cooling of the heat sink. The inlet of this fan is located at the bottom side of the instrument. Be sure that the inlet is not clogged by dust or other material (e.g. a sheet of paper placed under the cyclor can be attached to the inlet as the fan is in operation). Dust can be removed easily from the inlet with a conventional vacuum cleaner.

### 7.2 Restart due to unrecognised power failure

High voltage fluctuation can lead to an automatic restart of the thermocycler. In this case the cyclor restarts at the step where there power failure has occurred. To avoid voltage fluctuation, do not connect the cyclor to a socket shared by a strong power consumer like a refrigerator or a centrifuge.

### 7.3 Adaptation of protocols from other cyclers

Since the TPersonal is a fast instrument it may be necessary to reduce the heating and cooling ramps to run protocols from other cyclers. For the setting of the heating and cooling ramps see section 5.5.3. Alternatively, the time settings may be extended.

### 7.4 Lid can not be opened

The lid of the TPersonal is equipped with a snap mechanism that arrests when the lid is pressed down. When it is pressed down again the snap mechanism unlocks and the lid can be opened. As soon as the heated lid has been lowered by using the lid wheel the lid can not be opened and first the pressure has to be taken from heated lid. Turn the lid wheel counter clockwise to relieve the pressure (see section 4.4) and open the lid.

### 7.5 Releasing wheel in case of blocked lid

**Note:** When the lid is in the extreme up or down position, it may happen that the wheel is uncoupled. In this situation the clutch mechanism is active in both directions (clicking noise in either direction).

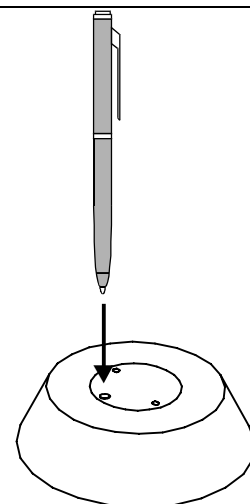
To unlock wheel, press down metal pin with a ball pen and turn wheel carefully. This pin overcomes the automatic clutch mechanism. Thus, care must be taken not to apply excessive pressure.

**Lid arrested in upper position:**

carefully turn wheel with pressed pin clockwise, until you feel normal resistance (no more clicking noise, clutch is released). Release pin and turn lid down, until the clutch mechanism is activated (clicking noise, optimum pressure applied).

**Lid arrested in down position:**

carefully turn wheel with pressed pin counter clockwise, until you feel normal resistance (no more clicking noise, clutch is released). Release pin and turn wheel counter clockwise until pressure is completely released. Open lid.



**Important:** When the clutch mechanism is active (= optimum pressure is applied), Do not use pin to further increase pressure. This may lead to damage of tubes and instrument!

## **8 Maintenance and repair**

### **8.1 Cleaning and Maintenance**

The TPersonal was built to operate for a long time without the need for periodical maintenance. Nevertheless, occasionally cleaning of the air inlet may be necessary to maintain the efficiency of the Thermocycler. Insufficient airflow may lead to reduced heating and cooling rates (see chapter 7.1). The inlet for the airflow is located at the bottom side of the instrument. Be sure that the inlet is not clogged by dust or other material (e.g. a sheet of paper placed under the cyclor can be attached to the inlet as the fan is in operation). Dust can be removed easily from the inlet with a conventional vacuum cleaner. Additionally, the Thermocycler housing may be cleaned from time to time with a smooth cotton cloth. Do not use strong detergents or organic solvents for cleaning. Never treat silver block with abrasive agents.

**Important:** Appropriate safety regulations must be observed when working with infectious or pathogenic material.

### **8.2 Servicing and repair**

The TPersonal Thermocycler contains no user serviceable parts. Do not open the housing instrument. Service and repair may only be carried out by the Biometra Service department or otherwise qualified technical personal.

The Service department offers Thermocycler maintenances and temperature verifications. Biometra recommends an annual maintenance and a biannual temperature check for all Thermocyclers. Please call the following phone number for detailed information: +49 551-50881-10/12.

### **8.3 Firmware update**

For instruction for firmware upgrade, please contact the Biometra Service Department or your local distributor/sales representative.

### **8.4 Replacement of Spare Parts**

Only original spare parts mentioned in these operating instructions are allowed.

## 9 Accessories

### 9.1 Plasticware

Biometra offers a broad range of plasticware for the use in PCR. The following table provides an overview for the product portfolio:

Cat. no.	Description	Quantity
<b>Single tubes</b>		
050-310	0.2 ml tubes with caps	1000 pcs.
050-320	0.5 ml tubes with caps	1000 pcs.
<b>Tube strips</b>		
050-254	Strips 8 tubes and flat caps	125 pcs.
050-255	Strips 8 tubes and domed caps	125 pcs.
<b>48 well plates</b>		
050-225	48 well microplate	50 pcs.
<b>96 well plates</b>		
050-232	96 well skirted	25 pcs.
050-213	96 well non-skirted (low profile)	25 pcs.
050-253	96 well non-skirted	25 pcs.
<b>384 well plates</b>		
050-231	HSQ 384 well skirted	50 pcs.
050-240	384 well microplate	50 pcs.
<b>Miscellaneous</b>		
050-237	Silicone mat	50 pcs.
050-256	Adhesive film	100 pcs.
050-257	Heat Sealing Film	100 pcs.
	Heat Sealing Film	
050-236	Aluminum	10 pcs.
050-194	96 well aluminium plate	1 pcs.
050-694	384 well aluminium plate	1 pcs.
050-251	Nop mat 96 well	20 pcs.
050-252	Nop mat 384 well	20 pcs.

## 10 Service

Should you have any problems with this unit, please contact our service department or your local Biometra dealer:

### **Biometra GmbH**

Service Department

Rudolf-Wissell-Straße 14 - 16

D-37079 Göttingen

Phone: ++49 (0)5 51 50 68 6 - 10 or 12

Fax: ++49 (0)5 51 50 68 6 -11

e-mail: [Service@biometra.com](mailto:Service@biometra.com)



If you would like to send the unit back to us, please read the following return instructions in chapter 10.1.

### 10.1 Instructions for return shipment

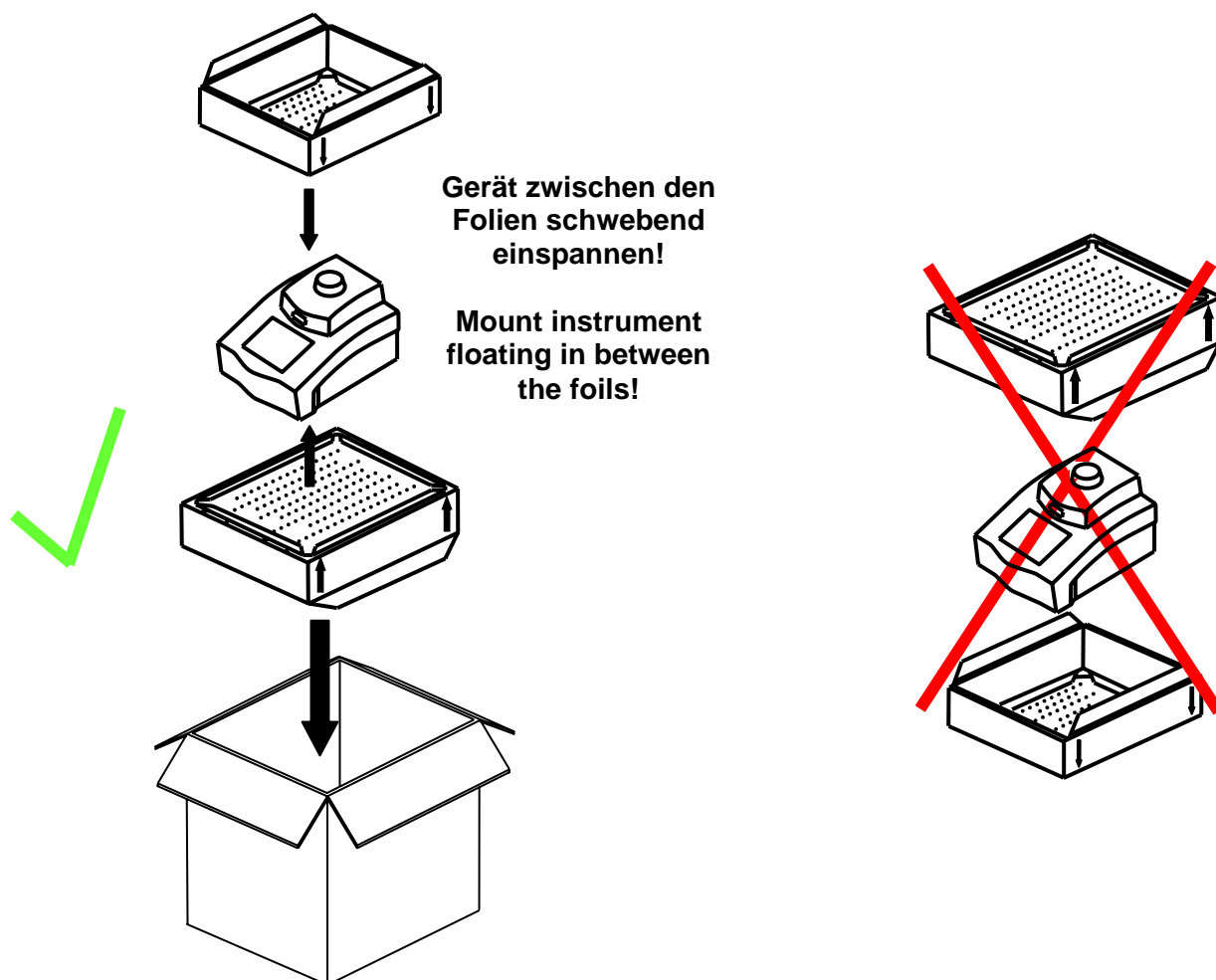
In case of an instrument failure that cannot be fixed by the procedures described in section 7 please proceed as follows:

- Return only defective devices. For technical problems which are not definitively recognisable as device faults please contact the Technical Service Department at Biometra (Tel.: +49 551-50881-10/12, Fax: +49 551-50881-11, e-mail: [service@biometra.com](mailto:service@biometra.com)).
- Please contact our service department for providing a **return authorization number (RAN)**. This number has to be applied clearly visible to the outer box. **Returns without the RAN will be not be accepted!**
- Important: Carefully clean all parts of the instrument of biologically dangerous, chemical or radioactive contaminants. If an instrument is contaminated, Biometra will be forced to refuse to accept the device. The sender of the repair order will be held liable for possible losses resulting from insufficient decontamination of the device.
- Please prepare written confirmation that the device is free from biologically dangerous and radioactive contaminants. The declaration of decontamination (see section 11) must be attached to the outside of the packaging.
- Use the original packing material. If not available, contact Biometra or your local distributor.
- Label the outside of the box with "CAUTION! SENSITIVE ELECTRONIC INSTRUMENT!"
- Please enclose a note which contains the following:
  - a) Sender's name and address,
  - b) Name of a contact person for further inquiries with telephone number,
  - c) Description of the fault, which also reveals during which procedures the fault occurred, if possible

## 10.2 Packing of the Thermocycler

Biometra uses an extra designed packaging system where the instrument is mounted in between two tearproof foils. The Thermocycler is put onto the lower inlet and is fixed in between the foils by pressing the upper inlet down.

**Note:** The Thermocycler is only protected from transport damage if the packing instructions are followed and the instrument is mounted in between the foils. Biometra will not be responsible for transport damage by improper packing.



## 11 Equipment Decontamination Certificate

To enable us to comply with german law (i.e. §71 StrlSchV, §17 GefStoffV and §19 ChemG) and to avoid exposure to hazardous materials during handling or repair, please complete this form, prior to the equipment leaving your laboratory.

COMPANY / INSTITUTE \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE NO \_\_\_\_\_ FAX NO \_\_\_\_\_

E-MAIL \_\_\_\_\_

EQUIPMENT	Model	Serial No
	_____	_____
	_____	_____
	_____	_____
	_____	_____

If on loan / evaluation Start Date: \_\_\_\_\_ Finish Date \_\_\_\_\_

Hazardous materials used with this equipment:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Method of cleaning / decontamination:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The equipment has been cleaned and decontaminated:

NAME \_\_\_\_\_ POSITION \_\_\_\_\_  
(HEAD OF DIV./ DEP./ INSTITUTE / COMPANY)

SIGNED \_\_\_\_\_ DATE \_\_\_\_\_

PLEASE RETURN THIS FORM TO BIOMETRA GMBH OR YOUR LOCAL BIOMETRA DISTRIBUTOR TOGETHER WITH THE EQUIPMENT.  
**PLEASE ATTACH THIS CERTIFICATE OUTSIDE THE PACKAGING. INSTRUMENTS WITHOUT THIS CERTIFICATE ATTACHED WILL BE RETURNED TO SENDER.**

**General Information for Decontamination:**

**Please contact your responsible health & safety officer for details.**

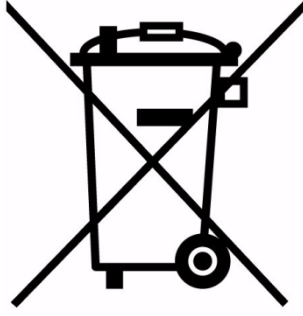
**Use of radioactive substances:**

**Please contact your responsible person for details.**

**Use of genetically change organism or parts of those:**

**Please contact your responsible person for details.**

## 12 Note for the disposal of electric / electronic waste.

Note	for disposal of electric / electronic waste	
Hinweis	für die Entsorgung von Elektroaltgeräten	
Renseignement	du <u>traitement des déchets</u> des appareils électrique / électronique	

This symbol (the crossed-out wheeled bin) means, that this product should be brought to the return and / or separate systems available to end-users according to your country regulations, when this product has reached the end of its lifetime.

For details, please contact your local distributor!

This symbol applies only to the countries within the EEA\*.

EEA = European Economic Area, comprising all EU-members plus Norway, Iceland and Liechtenstein.

Dieses Symbol (die durchgestrichene Abfalltonne) bedeutet, dass dieses Produkt von der Firma Biometra für eine kostenlose Entsorgung zurückgenommen wird. Dies gilt nur für Geräte, die innerhalb Deutschlands gekauft worden sind.

Kontaktieren Sie für die Entsorgung bitte die Biometra Service-Abteilung!  
Außerhalb Deutschlands wenden Sie sich bitte an den lokalen Händler.

Dieses Symbol gilt nur in Staaten des EWR\*.

\*EWR = Europäischer Wirtschaftsraum, umfasst die EU-Mitgliedsstaaten sowie Norwegen, Island und Liechtenstein.

Cet symbol (conteneur à déchets barré d'une croix) signifie que le produit, en fin de vie, doit être retourné à un des systèmes de collecte mis à la disposition des utilisateurs finaux en conséquence des réglementations par la loi de votre pays.

Pour des information additionnel nous Vous demandons de contacter votre distributeur!

Cet symbole s'applique uniquement aux pays de l'EEE\*.

EEE = Espace économique européen, qui regroupe les États membres de l'UE et la Norvège, Islande et le Liechtenstein.

## 13 Declaration of Conformity

Göttingen, den 20. 08. 2004

im Sinne der EG-Richtlinie über elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen 73/23/EWG  
*following the EC directive about electrical equipment for use within certain limits of voltage 73/23/EEC*

und / *and*

im Sinne der EG-Richtlinie für die elektromagnetische Verträglichkeit 89/336/EWG.  
*following the EC directive about the electromagnetic compatibility 89/336/EEC .*

Hiermit erklären wir, daß folgende **Thermocycler**:  
*Herewith we declare that the following **Thermocyclers**:*

Typen / <i>types</i> :	TPersonal 20, TPersonal 48, TPersonal combi
Best.-Nr. / <i>Order No.</i> :	050-720, 050-723, 050-724

den grundlegenden Anforderungen der  
*corresponds to the basic requirements of*

EG-Niederspannungsrichtlinie 73/23/EWG und der  
*EC low voltage directive 73/23/EEC and the*

EG-Richtlinie über die elektromagnetische Verträglichkeit 89/336/EWG entsprechen.  
*EC directive about the electromagnetic compatibility 89/336/EEC .*

Folgende harmonisierte Normen wurden angewandt:  
*The following harmonized standards have been used:*

EN 55011:1998 + A1:1999 + A2:2000  
EN 61000-3-2:2000  
EN 61000-6-1:2001  
EN 61010-1: 2001

EN 55022:1998 + A1:2000 + A2:2003  
EN 61000-3-3:1995 + A1:2001  
EN 61010-2-010: 1994 + A1: 1996

Dr. Jürgen Otte  
Quality Manager

## 14 Warranty

This Biometra instrument has been carefully build, inspected and quality controlled before dispatch. Hereby Biometra warrants that this instrument conforms to the specifications given in this manual. This warranty covers defects in materials or workmanship as described under the following conditions:

This warranty is valid for 24 month from date of shipment to the customer from Biometra. This warranty will not be extended to a third party without a written agreement of Biometra.

This warranty covers only the instrument and all original accessories delivered with the instrument. This warranty is valid only if the instrument is operated as described in the manual.

Biometra will repair or replace each part which is returned and found to be defective. This warranty does not apply to wear from normal use, failure to follow operating instructions, negligence or to parts altered or abused.

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